

## IMPACT OF HOME ENVIRONMENT ON COGNITIVE DEVELOPMENT OF THE CHILDREN- A CROSS CULTURAL STUDY

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### ABSTRACT

*The home-environment primarily consists of the prevalent customs, codes, and traditions of the community, it is at the same time highly personal by the human interaction involved. Due to former fact, it can safely be said that a child first comes in contact with the mysteries of a community like as he sees it reflected in the mirror of a family. Cognitive development is associated with the development of memory and social skills, language acquisition, logical reasoning, planning, and problem-solving. These aspects interact in an organized way, producing developmental results that change according to environmental and personal factors that mold and determine the rhythm and direction of cognitive development. The study examines the impact of home environment on the cognitive development of the children of state Uttarakhand and State Haryana. The study was conducted in rural and urban areas of state Uttarakhand and Haryana. The results revealed that Home environment influences the cognitive development of the children. Mother education, father education, mother occupation and family income had an influence on the cognitive development of children.*

**KEY WORDS:** Impact, Home Environment, Cognitive Development & Children

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### INTRODUCTION

The relationship between home environment and cognitive development has been and continues to be a controversial issue in developmental psychology. It is an issue of both theoretical and practical significance. Theoretically, it is important to ascertain the environmental factors that correlate with cognitive development and the extent to which they account for unique variance in developmental status. The term cognitive development refers to the process of growth and change in intellectual/mental abilities such as thinking and understanding. It includes the acquisition and consolidation of knowledge. Cognitive development is associated with the development of memory and social skills, language acquisition, logical reasoning, planning, and problem-solving. These aspects interact in an organized way, producing developmental results that change according to environmental and personal factors that mold and determine the rhythm and direction of cognitive development. The first years of life constitute a critical period of rapid personal change, and the events of this phase prepare the child for subsequent developmental competency

During the early years a child spends his maximum time with the family and parents are the child's first educators. Child's family and home environment have a strong impact on his/her domains of development. Many background variables, decide the impact of the family and home environment (such as socio-economic status, level

of parental education, family size, etc.) but parental attitudes and behavior, especially parents involvement in home learning activities, can be crucial to children's achievement and can overcome the influences of other factors. The children of unhealthy and uneducated parents grow up to be an unhealthy and uneducated adult (Cutler *et al.*, 2011). Maternal education as influential factor child health as improvements in maternal education leads child nutritional outcomes (Glewwe, 2000).

A child's early home environment has a profound effect on his well-being. Beginning in infancy, a problematic home environment can disrupt the brain's stress response system, reduce the quality of care giving a child receives and interfere with healthy development, a problematic home environment can disrupt the brains stress response system reduces the quality of care giving a child receive and interfere with healthy development (Willoughy *et al.*, 2011). So keeping in view the above facts, the present study has been framed with the following objectives:

## OBJECTIVES

- To assess the impact of the home environment on the cognitive development of children.
- To delineate factors affecting cognitive development.

## MATERIAL AND METHODS

As per the objectives, state Uttarakhand and state Haryana were selected purposively due to easy accessibility. The study was conducted in urban and rural areas of Haryana and Uttarakhand states. Hisar district of Haryana and Pauri district of Uttarakhand were selected randomly.

The age group for the study was 3 years old children ( $\pm 15$  days). To draw a rural sample from both the states, a list of children of anganwadis were prepared and 50 children were selected randomly, similarly to draw an urban sample from both the states, a list of balwadis /urban anganwadis were prepared and 50 children were selected randomly, regardless of their gender. Hence the total numbers of the samples were 200 children for the present study. The bailey scale of infant and toddler development was used to assess the cognitive development of the children.

## RESULT AND DISCUSSIONS

### Personal Profile of the Respondents

The personal profile of the children of both the states has been shown in table 1.

#### Number of Siblings

The data revealed that in state Uttarakhand, 45 percent of the children had up to two siblings followed by 30 percent up to three or above siblings and rest 25 percent up to one sibling. While in state Haryana more than half of the children had up to 3 siblings (55%) followed by an almost equal percentage of (28%) respondents were having up to one and three or more siblings respectively.

#### Ordinal Position

Moving towards ordinal position data from the table shows that in state Uttarakhand more than half of the children were first born (52%), followed by second-born (34%) and the rest were third born or above (14%). Whereas in state Haryana 48 percent children were second-born, followed by 33 percent first born and rest 19 percent third born and

above.

### **Family Type**

Data regarding family type exhibits that among Uttarakhand children more than half of the respondents (57%) were nuclear in structure and rest were joint in structure (43%). Similar, trends were observed in state Haryana more than half of the children (52%) were nuclear in structure rest were joint in the structure (48%)

### **Family Size**

It was seen that half of the children (50%) of state Uttarakhand belonged to large family size followed by medium and small (28 % and 22% respectively). While in state Haryana 43 percent of the children were having small family size followed by 30 per cent medium and rest 27 percent were having the large family size.

### **Mother's Age**

Further, table revealed that in state Uttarakhand out of the total sample more than half of the respondents' (54%), mothers belonged to age group 26 -30 years, followed by age group 20-25 years (36%) and the rest belonged to age group 30 and above. Whereas in a state Haryana equal number of respondents' mother (41%) belonged to age group 20-25 and 26 -30 and the rest belonged to age group 30 and above (18%).

### **Father's Age**

Regarding father age, the data indicated that in state Uttarakhand more than half of the respondents' (62%) father belonged to age group 26-30 followed by age group 20-25 (25%) and the rest belonged to 30 and above (13%). Whereas in state Haryana 48 percent of the respondent's father belonged to age group between 26-30 followed by 31 percent 30 or above and rest 12 percent belonged to age group between 20-25.

### **Mother's Education**

Educational status of the mother highlighted that in state Uttarakhand out of the total sample, 44 percent of the respondent's mothers were illiterate, 34 percent were educated up to matriculation and rest 12 percent were educated matriculation to graduation. The same pattern of education of the respondent's mothers was observed in state Haryana as 44 percent were illiterately followed by 33 percent were educated up to matriculation and rest 23 percent were educated matriculation to graduation

### **Father's Education**

As far as Father Education is concerned, in state Uttarakhand out of the total sample, 41 percent respondent's father were educated up to matriculation followed by 32 percent were illiterate and rest 27 percent were educated matriculation to graduation. While in state Haryana 44 per cent of the respondent's fathers were educated up to matriculation followed by 30 percent were illiterate and 26 percent were educated matriculation to graduation.

### **Mother's Occupation**

Occupational status of the mother of respondents revealed that in state Uttarakhand 66 percent of the respondent's mothers were homemaker, 26 percent were engaged in a government job and rest 8 percent were engaged in the private job. Whereas in state Haryana high percent (73) mothers of respondents were homemaker, followed by engaged in a government job (15%) and rest were engaged in private jobs (11%).

### Father's Occupation

Turning towards the occupation of the father data highlighted that in state Uttarakhand 38 percent of the respondents were engaged in farming, followed by 33 percent were engaged in a government job and rest 29 percent were engaged in private jobs. While in state Haryana 68 percent were engaged in private jobs followed by 23 percent in government jobs and rest 9 per cent were engaged in farming.

### Family Income

Further, from economic status data it can be concluded that in state Uttarakhand 39 percent of the respondents belonged to high family monthly income followed by 34 percent belonged to medium and rest 27 percent had low family income. Whereas in state Haryana 47 percent belonged to medium family income, followed by an 29 percent belonged to high family income and 27 percent belonged to low family income

**Table 1: Distribution of Respondents According to their Personal Profile**  
**Personal Profile of the Respondents**

Variables	Uttarakhand (n=100)			Haryana (n=100)		
	Rural	Urban	Total	Rural	Urban	Total
<b>No of Sibling</b>						
One	13(26)	12(24)	25	10(20)	08(16)	18
Two	15(30)	30(60)	45	23(46)	32(64)	55
Three or more	22(44)	08(16)	30	17(34)	10(20)	27
<b>Ordinal Position</b>						
First	28(56)	24(48)	52	23(46)	10(20)	33
Second	16(32)	18(36)	34	18(36)	30(64)	48
Third and above	06(12)	08(16)	14	09(18)	10(26)	19
<b>Family Type</b>						
Nuclear	21(42)	36(72)	57	22(44)	30(60)	52
Extended /Joint	29(58)	14(28)	43	28(56)	20(40)	48
<b>Family Size</b>						
Small	10(20)	12(24)	22	16(32)	27(54)	43
Medium	08(16)	20(40)	28	14(28)	16(32)	30
Large	32(64)	18(36)	50	20(40)	07(14)	27
<b>Mother's Age (yrs)</b>						
20-25	20(40)	16(32)	36	22(44)	19(38)	41
26-30	26(52)	28(56)	54	15(30)	26(52)	41
31 and above	04(08)	06(12)	10	13(26)	05(10)	18
<b>Father's Age(yrs)</b>						
20-25	15(30)	10(20)	25	08(16)	04(08)	12
26-30	30(60)	32(64)	62	22(44)	26(52)	48
31 and above	05(10)	08(16)	13	20(40)	20(40)	40
<b>Mother's Education</b>						
Illiterate	26(32)	18(36)	44	28(56)	16(30)	44
Up to matriculation	14(30)	20(40)	34	12(24)	21(42)	33
Matriculation to graduation	10(20)	12(24)	22	10(20)	13(26)	23
<b>Father's Education</b>						
Illiterate	18(36)	14(28)	32	17(34)	13(26)	30
Up to Matriculation	21(42)	20(40)	41	22(44)	22(44)	44
Matriculation to graduation	11(22)	16(32)	27	11(22)	15(30)	26
<b>Mother's Occupation</b>						
Homemaker	36(72)	30(60)	66	38(76)	35(70)	73
Govt. Job	12(24)	14(28)	26	05(10)	10(20)	15
Private job	02(04)	06(12)	8	07(14)	05(10)	12
<b>Father's Occupation</b>						

Table 1: Contd.,						
Farming	28(56)	05(10)	38	07(14)	02(04)	9
Govt. Job	12(24)	26(52)	33	10(20)	13(26)	23
Private job	10(20)	19(38)	29	33(66)	35(70)	68
<b>Family Income(monthly)</b>						
Low	13(26)	14(28)	27	14(28)	10(20)	24
Medium	27(54)	07(14)	34	26(52)	21(42)	47
High	10(20)	29(58)	39	10(20)	19(38)	29

Figures in parentheses indicate percentage

### Association of Cognitive Development with Home Environment in Rural Areas of Both States

Table 2 highlighted the association of aspects of a home environment with the cognitive development in rural areas of both the states.

#### Learning Stimulation

The data revealed that in rural areas of state Uttarakhand and state Haryana cognitive development of children was associated with Learning stimulation ( $\chi^2 = 4.56$  and  $5.05$  respectively)  $0.05$  level of significance.

#### Language Stimulation

The data revealed that in rural areas of state Uttarakhand and state Haryana cognitive development of children was not associated with Language stimulation ( $\chi^2 = 3.18$  and  $4.24$  respectively)  $0.05$  level of significance.

#### Physical Environment

The data revealed that in rural areas of state Uttarakhand and state Haryana cognitive development of children was not associated with the physical environment ( $\chi^2 = 2.09$  and  $3.89$  respectively)  $0.05$  level of significance.

#### Warmth and Affection

The data revealed that in rural areas of state Uttarakhand and state Haryana cognitive development of children was associated with Warmth and affection ( $\chi^2 = 5.78$  and  $4.87$  respectively)  $0.05$  level of significance.

#### Academic Stimulation

The data revealed that in rural areas of state Uttarakhand and state Haryana cognitive development of children was associated with Academic stimulation ( $\chi^2 = 4.65$  and  $7.98$  respectively)  $0.05$  level of significance.

#### Modelling

The data revealed that in rural areas of state Uttarakhand and state Haryana cognitive development of children was associated with modeling ( $\chi^2 = 3.89$  and  $4.59$  respectively)  $0.05$  level of significance.

**Table 2: Association of Cognitive Development with Home Environment In Rural Areas of Both States**

Aspects of Home Environment	BSID	
	Uttarakhand (n=50)	Haryana (n=50)
	$\chi^2$	$\chi^2$
Learning stimulation	4.56*	5.05*
Language stimulation	3.18	4.24
Physical environment	2.09	3.89

Table 2: Contd.,		
Warmth and affection	5.78*	4.87*
Academic stimulation	4.65*	7.98*
Modelling	3.89*	4.59*
Variety in experience	4.43*	5.67*
Acceptance	6.87*	5.56*
Total composite score	4.68*	5.09*

Significant at 5 % level of significance

Figures in parentheses indicate percentage

### Variety in Experience

The data revealed that in rural areas of state Uttarakhand and state Haryana cognitive development of children was associated with a variety in experiences ( $\chi^2 = 4.43$  and  $5.67$  respectively) 0.05 level of significance.

### Acceptance

The data revealed that in rural areas of state Uttarakhand and state Haryana cognitive development of children was associated with Acceptance ( $\chi^2 = 6.87$  and  $5.56$  respectively) 0.05 level of significance.

### Composite Total Score

The data revealed that in rural areas of state Uttarakhand and state Haryana cognitive development of children was associated with Composite total scores ( $\chi^2 = 4.68$  and  $5.09$  respectively) 0.05 level of significance.

## ASSOCIATION OF COGNITIVE DEVELOPMENT WITH HOME ENVIRONMENT IN URBAN AREAS OF BOTH STATES

Table 3 highlighted the association of aspects of a home environment with the cognitive development in rural areas of both the states.

### Learning Stimulation

The data revealed that in urban areas of state Uttarakhand and state Haryana cognitive development of children was associated with Learning stimulation ( $\chi^2 = 6.09$  and  $7.56$  respectively) 0.05 level of significance.

### Language Stimulation

The data revealed that in urban areas of state Uttarakhand and state Haryana cognitive development of children was associated with Language stimulation ( $\chi^2 = 7.13$  and  $7.63$  respectively) 0.05 level of significance.

### Physical Environment

The data revealed that in urban areas of state Uttarakhand and state Haryana cognitive development of children was not associated with the physical environment ( $\chi^2 = 4.09$  and  $4.89$  respectively) 0.05 level of significance.

### Warmth and Affection

The data revealed that in urban areas of state Uttarakhand and state Haryana cognitive development of children was associated with Warmth and affection ( $\chi^2 = 5.87$  and  $4.98$  respectively) 0.05 level of significance.

### Academic Stimulation

The data revealed that in urban areas of state Uttarakhand and state Haryana cognitive development of children was associated with Academic stimulation ( $\chi^2 = 4.78$  and  $7.45$  respectively)  $0.05$  level of significance.

### Modelling

The data revealed that in urban areas of state Uttarakhand and state Haryana cognitive development of children was associated with modeling ( $\chi^2 = 5.87$  and  $4.07$  respectively)  $0.05$  level of significance.

**Table 3: Association of Cognitive Development with Home Environment In Urban Areas of Both States**

Aspects of home environment	BSID	
	Uttarakhand (n=50)	Haryana (n=50)
	$\chi^2$	$\chi^2$
Learning stimulation	6.09*	7.56*
Language stimulation	7.13 *	7.63*
Physical environment	4.09	4.89
Warmth and affection	5.87*	4.98*
Academic stimulation	4.78*	7.45*
Modelling	5.87 *	4.07*
Variety in experience	4.67*	3.98*
Acceptance	5.98*	4.87*
Total composite score	3.92*	4.05*

\*Significant at 5 % level of significance

Figures in parentheses indicate percentage

### Variety in Experience

The data revealed that in urban areas of state Uttarakhand and state Haryana cognitive development of children was associated with a variety in experiences ( $\chi^2 = 4.67$  and  $3.98$  respectively)  $0.05$  level of significance.

### Acceptance

The data revealed that in urban areas of state Uttarakhand and state Haryana cognitive development of children was associated with Acceptance ( $\chi^2 = 5.98$  and  $4.87$  respectively)  $0.05$  level of significance.

### Composite Total Score

The data revealed that in urban areas of state Uttarakhand and state Haryana cognitive development of children was associated with Composite total scores ( $\chi^2 = 3.92$  and  $4.05$  respectively)  $0.05$  level of significance.

## CONCLUSIONS

As the cross-cultural comparative study was conducted on impact of a home environment on cognitive development of the children and at the end of the study it can be concluded that all the children from both the states were found to be below the standard scores and it also found that the cognitive development of the children was influenced by a mother's education, father's education, and family monthly income. Profile of the respondents according to their cognitive development, data revealed that in rural and as well as the urban area of both the states Uttarakhand and Haryana most of

the children fell under the normal limits category. Further cognitive development of the children was not associated with birth order and mother's occupation in rural areas of both the states, whereas it was associated with birth order and mother's occupation in urban areas of both the states.

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